NATIONAL ACADEMY OF SCIENCES
COMMITTEE ON INTERNATIONAL SECURITY AND ARMS CONTROL
2101 Constitution Avenue Washington, D.C. 20418

July 30, 1993

TO: Members of the CISAC BW Working Group
FROM: Jo Husbands

SUBJECT: Beginning to Plan Our Next Steps

Enclosed you will find a number of items intended to get us started thinking about our activities. **First** is the draft of a summary of the planning meeting we held in May. This is not a comprehensive account, but I found as I tried to summarize the decisions we had made during the meeting that more background seemed needed to explain where these ideas came from. (If you want to cut to the chase, the summary of our decisions is on page 13). I would appreciate any comments, additions, or corrections you may have. I do not anticipate that we would circulate this document, although we might want to send it to the members of the larger CISAC.

The **second** item is a short paper by Tom Monath that summarizes the idea for converting Russian biowarfare research to public health work on dangerous diseases. It would serve as the basis for the planning meeting we discussed holding in Washington in early fall to explore the idea further with appropriate U.S. government people, such as D.A. Henderson and C.J. Peters from CDC.

Third, September and October calendars are included so that we can identify potential dates for a Working Group meeting, which might take place in conjunction with the planning meeting on Tom's idea. Petrov will be coming with the Russian delegation to the main CISAC meeting from October 25-27, and Josh is expected to meet with him sometime during that week to talk about our next joint meeting. We will need to have made progress and thought about our priorities before that happens. Please return the calendars -- marked with the dates you are NOT available -- by Monday, August 9th, so that we can begin making contacts for the planning meeting. Our fax number is 202-334-1730.

I look forward to your comments on the draft summary and any other suggestions you might have. Cheers.

SUMMARY
of a
PLANNING MEETING
CISAC Working Group on Biological Weapons Control
with a delegation from
The Russian Academy of Sciences

May 27-29, 1993

CISAC Working Group: Joshua Lederberg (chair); Robert Chanock; Thomas Monath; Alexis Shelokov; John Steinbruner; Jo Husbands

Russian Academy Delegation: Academician Rem Petrov, Vice President of the Russian Academy of Sciences for Life Sciences (chair, Russian counterpart group); Academician Vadim Ivanov, Shemyakin Institute of Bioorganic Chemistry; Academician Lev Sandakchiev, Director of Scientific [sic] and Production of Association "Vector," Novosibirsk Region; Academician Vladimir Bolshakov, Director of Ecology Institute, Sverdlovsk; Yuriy Shiyan, Presidium, Russian Academy of Science

Guest: John Robbins, Chief, Laboratory of Developmental and Molecular Immunity, Division of Intramural Research, National Institute of Child Health and Human Development

Agenda:
1. Cooperative research on anthrax pathogenicity and emerging pathogens

2. Update on plans to destroy collections of smallpox strains as a confidence-building measure

3. Bilateral cooperation on nonproliferation, including
   (a) verification and confidence-building measures for the Biological Weapons Convention,
   (b) establishing standards for permissible and impermissible activities under the Convention,
   (c) strategies to promote increased transparency and disclosure, and
   (d) cooperation in epidemiological surveillance

4. Conversion of military or military-related facilities to civilian purposes

[**NOTE**: Since this was a planning session, I have not attempted the traditional CISAC "near verbatim" record of the discussions. Instead, what follows simply presents highlights, not necessarily in chronological order, as background for the decisions about possible future activities.]

BACKGROUND, GENERAL ISSUES, CLIMATE

Lederberg emphasized several times during the meeting how much times had changed since the groups last met and the opportunities that this presented for cooperative work. Rather than struggling to develop a trickle of information between hostile powers, the U.S. and Russia are now on the same side of many issues. They share a common interest in the potential threats posed by third parties and the risks of proliferation. The two countries need to build trust and confidence in one another.

Yet residuals of distrust remain and, as President Yeltsin's announcement last year acknowledged, there is a long history that must be clarified. The purpose of this meeting was not to rake over past history, but to explore what might be done cooperatively between the two academies to advance a climate of trust and openness. Since the groups had not met since late 1990, they needed a chance for informal discussions to decide what substantive contributions they might make toward policies to support the control of biological weapons.

Petrov agreed with Lederberg about the scope of the changes, emphasizing how as scientists, the Russians welcomed the shedding of past rules and practices. There had been secret laboratories, but Petrov noted that all laboratories were under pressure from the government and the Communist Party Central Committee. In the past the Soviet Academy had tried to protect its scientists and the standards of its research, but in fact biological research had been conducted on high priority military problems in Academy institutes. He emphasized, however, that all implementation was done outside the Soviet Academy. With its new charter under the Russian Federation in the last 2 years the now Russian Academy has begun to define its own priorities. This is a good time for cooperation between the two academies, and the groups' work could have an impact on policy.

[NOTE: The Russian government has created a new presidential commission on all problems related to the CW and BW conventions, headed by General Kuntsevitch. According to **Sandakchiev**, Alexei Borisovitch Ignatief is the senior official for BW issues in the Commission. As yet the group has not issued any reports. There was also a major international conference in Moscow in May on C&BW issues in which Kuntsevitch was heavily involved. **Shiyan** and others reported that there was no mention of BW issues, since Kuntsevitch preferred to concentrate on CW issues.]

CONVERSION

Petrov expressed concern for the brain drain of Russian scientists, and the need to find ways to enable scientists to remain at home and to work on peaceful projects. Although the potential for nuclear scientists to be enticed by third parties has received substantial attention, the risk applies to BW as well. He divided the problem into three parts:

1. Fundamental, basic research. This type of research in microbiology and molecular biology is common across international science, and does not require conversion to other activities. But this research did receive support from the military, which was interested in its potential applications, and that support has disappeared. This is not a problem for our groups, but rather of the larger international effort to support Russian science.

2. Research on dangerous organisms. This group of institutes and researchers received substantial support from the military. Even if they were not making weapons directly, it is impossible to draw the line between peaceful and military purposes in their case. This is the group for which conversion assistance is needed, so that they will not be susceptible to enticement.

3. Military aspects. These efforts involved the development of delivery systems and instrumentation for offensive biological weapons. These people and institutes need not concern our groups, as they can quite readily find other, non-BW related purposes and work.

Petrov commented that, although #2 was clearly the appropriate target for conversion efforts, this was not an area where the Russian Academy had experience and he was not sure what the appropriate mechanisms would be.

Ivanov commented that the Russian government was already working to organize "federal centers" that would involve institutes that were formerly part of the military-industrial complex. Of the many candidates, the Kurchatov Institute and the Chemical Institute in Petersburg had already been chosen. Some of the BW-related institutes were already discussing potential joint ventures with Western firms and joint work on hepatitis is under way.

Sandakchiev said that financing from the Ministry of Defense now provided less than 5% of his institute's budget. The conversion problem really began in 1989, when military support for research collapsed. There were two main institutes: the Obalynskiy (sp.) Center, which worked on special infectious diseases and his institute, NPO Vector, which concentrated on viruses. NPO Vector has a staff of 3,000+ and 120,000 square meters of facilities. Weapons were not developed at these facilities and there was no production or stockpiling of strains or agents.

The scientists who work in these facilities are highly qualified, and they have been exploring joint ventures with Western firms. However, they have no experience with commercial production and marketing. Moreover, Russian standards of pharmacology are at a low level. Most of the foreign (French, American, and British) firms that have visited his institute have suggested that it would be cheaper to build new facilities from scratch than to

try to convert current facilities to Western GMP standards.[1]

Steinbruner commented that the $800 million in Nunn-Lugar funds for conversion could in principle be applied to #2 facilities. For that to happen, discussions at various levels will be required. Extensive disclosure would be needed from the Russians, and extensive commitments from the U.S. Western governments are recognizing that private firms need help in absorbing the risks associated with joint projects for conversion; market forces alone will not be sufficient to the task.

Robbins noted that another way to think of the problem was to divide between microbial geneticists, who work on developing and altering strains and fermentation engineers, who work on large-scale processes. The former group are readily convertible to other scientific enterprises, while the latter have experience that could be applied to either pharmaceutical production or industrial uses. One example of potential industrial conversion would be making glycerol, which is a new industry in the West, and seems a likely candidate for internal uses. Another is fermentation to make products used for oil production. These would not necessarily be products for export, but could fulfill the needs of Russian industry.

Sandakchiev suggested that, rather than "converting" these institutes, it would be better to formulate a joint research program that would continue peaceful work on dangerous diseases.

Monath commented that much of the work done in the U.S. on rare and exotic diseases has been done by the military in search of protection for American troops. Such research has almost no commercial potential, but it addresses important public health problems in many parts of the world. In the U.S., research is conducted at a small, underfunded laboratory at the Centers for Disease Control (CDC). He suggested that it would be sensible to think about converting Russian scientists and facilities with experience in these dangerous agents to public health work. For example, the world needs a variety of vaccines for diseases such as Lassa fever and various hemorrhagic fevers. An international research effort could make a real contribution to public health and serve the interests of conversion at the same time. Private industry will not be interested, so such efforts would be for governments to support.

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[1] Sandakchiev said that his firm was already producing a variety of commercial and medical goods for the Russian market, but these are cheap products that provide very little profit. The average salary level of his technical staff is the equivalent of $15/month and they have no access to Western journals.

His institute is cooperating with the Centers for Disease Control and with the World Health Organization on more scientific research, and have a proposed project with the Germans to produce vaccine for the Third World that would be financed by the European Community.

Such an effort should be relatively limited and focused on a few diseases that pose particular threats. Some of the products could be diagnostic kits for use in monitoring and the development and testing of vaccines. The effort would require a few tens of millions of dollars to support cooperative work in Russia, along with the CDC and a few other laboratories around the world.

In response to a question from Lederberg about potential U.S. support for such a project with Nunn-Lugar funds, **Steinbruner** commented that there is a considerable ways to go before there will be a recognition of international public health activities as an important option for conversion. Moreover, at the moment, no one in the U.S. government appears to be taking initiatives for BW aspects of Nunn-Lugar.

The initiative for such a project will almost certainly need to come from outside the U.S. government, since it cuts across so many jurisdictions. Here the two academies could play an effective role in developing the idea, in fleshing out its scope and cost. The Russians will need to develop their own ideas, but they could certainly obtain assistance from the international community. The idea could be part of a broader effort on international epidemiological monitoring (see below).

The two groups responded very positively to Monath's suggestion. **Chanock** noted that a special contracting vehicle, called a CRADA, can be used to develop memoranda of understanding between nonprofit organizations. His institute is currently negotiating such an arrangement with an institute in Novosibirsk. Although not appropriate for large projects, mechanisms such as this might permit research partnerships under a broader project framework. **Sandakchiev** strongly supported the idea and estimated that Russian scientists could put initial proposals together within 3 months.

The two groups agreed that developing the idea of an international public health research effort focused on specific dangerous agents, which could support the conversion of some Russian scientists and institutes, should be a priority for our future work. [NOTE: In private conversation later, the CISAC group discussed convening a small planning session in the U.S. early in the fall to explore the idea with public health officials and those involved with Nunn-Lugar projects.]

SMALLPOX

The success of the international campaign to eradicate smallpox means that the virus no longer occurs naturally. The only known stocks of the etiologic agent, variola virus, are held by the U.S. and Russia. With sequencing of the smallpox genome complete, the two countries have agreed, as a confidence-building measure (CBM) under the auspices of the WHO, to destroy their collections by December 31, 1993. The groups had discussed the issue at past meetings, and it will be discussed at a WHO meeting in Glasgow this summer.

Sandakchiev came to the meeting with a paper that argued strongly against destruction of the collections. He argued that the destruction of the collections was not a guarantee of complete eradication, and that if a new strain emerged the absence of collections of old strains would inhibit analysis. He also argued that this would be a loss for potential research and enhanced understanding; there are 400 strains in the U.S. collection, 109 in the Russian collection, and only 2 strains were fully sequenced. Finally, he suggested that the issue had now become as much political as scientific, so that the discussions in scientific journals and conferences reflected only part of the process pushing for destruction.

Of the CISAC group, only **Chanock** still supported destruction of the collections. He noted that destruction set an absolute standard, so that the discovery of existing stocks would be a clear violation. He also argued that, while one could not anticipate all the research questions of the future, techniques existed to answer most of the them even without the stocks. For the others, the end of the Cold War had diminished the symbolic value of destroying the stocks. **Lederberg** suggested, however, that it would be important to move to provide some international management of the collections, even if they remained in Russia and the U.S. He added that he was struck by how many people appeared to have had second thoughts about the plan.

Sandakchiev and **Petrov** said that a Russian commission from the Medical Institute had not welcomed testimony opposed to destruction, but in the end simply decided that the issue should be left of the WHO. It is not clear who will make the final decision in Russia, they said.

After further discussion, the two groups (including Chanock) agreed to support postponing the destruction to enable further study of the issue. If the stocks are retained, the groups support proposals for international management. Lederberg agreed to contact D.A. Henderson, the most appropriate American target for this idea. The two groups may discuss the problem further at their next meeting.

THE SVERDLOVSK INCIDENT

Lederberg began the discussion by saying that he regarded the issue of what happened at Sverdlovsk in 1979 as primarily a domestic political issue for the Russians. He added, however, that the U.S. and other nations would like to be reassured that Russia is investigating what happened and takes the problem seriously. Beyond this, what happened is of interest for public health. Two key questions are: What was the strain (and does it still exist in a laboratory somewhere)? What was the size of the dose?

Petrov commented that he was not sure he, or others in the group, knew much more about the incident than those who followed press reports in the West. The answers to questions about Sverdlovsk -- and the clandestine BW program -- are held by the military.

Thus, to him the crucial question is whether our groups could have any effect on the military's willingness to reveal information. Would a joint study be feasible?

Bolshakov offered his views as someone working in a research institute in Sverdlovsk at the time. [NOTE: His presentation did not reflect the statements by Yeltsin nor the generally accepted view that the accident was caused by a release from a secret military facility. He did not deny this account, he simply treated the causes as much more an open question than most people now believe.] Bolshakov said many scientists in Sverdlovsk were skeptical of the tainted meat story at the time, and offered several other possible explanations. The one new explanation concerned the ceramics factory where many of the victims worked. Bolshakov said that the factory made faience using mined locally clay. After the outbreak some suggested that anthrax-infected animals had been buried years earlier at the site where the clay was mined and perhaps spores had survived in the soil. He also stressed the anomalies in the data that are available. For example, there were no cases among children or adolescents, and no reported cases of wild animals contracting the disease. Bolshakov concluded by saying that there was little popular interest in Sverdlovsk in an explanation of the incident, but scientists there found it important and interesting. He cautioned that any investigation would have to proceed with "baby steps," noting that Sverdlovsk was a closed city until 1990.

Shelokov said that the question of the clay had come up during the visit of the group led by Matt Meselson, in which he took part, but in another context. Some had suggested that there was radioactivity in the clay, which might have reduced workers' immunity and made them more susceptible to the anthrax. The group had not been allowed to visit the rayon next to the ceramics factory, where they were told there had been many anthrax cases among domestic animals. He said they had been told of cases among wild animals as well. He added that it now appeared most of the cases among the ceramics factory workers were clustered among those who worked in the tile manufacturing section.

Petrov commented that if a mechanism could be found for a joint study, the Russian Academy Presidium would support the effort. Funds would be needed for the project, however, and he suggested considering an international effort and a broader focus on anthrax as a whole. The group then discussed various forms a study of anthrax might take.

Shelokov mentioned that, although such efforts were beyond the scope of a Western group such as CISAC, there might be evidence that a Russian internal investigation could pursue. For example, the Meselson group was told that the organisms isolated from human cases were deposited at the Habarisk institute [NOTE: Shelokov thought this was not the main regional institute but a specialized facility for studying newly identified strains]. They were also told that sera had been taken from hundreds of patients (both victims and those suspected of having the infection) and these might be at Nikiforov's old hospital. If any of these samples survived, there would be potential for both bacteriological and serological analysis.

Sandakchiev asserted that the Sverdlovsk issue is a political, not a scientific matter, and that one has to remember the political situation. Yeltsin was the Communist party boss in Sverdlovsk at the time of the incident. He has repeatedly said that he knew nothing about what happened, but in the current precarious political climate, an open inquiry is not in his interests. A few months ago, all data on BW programs was declared closed, so it would take presidential action to open the files. Furthermore, nothing could be learned without the cooperation of the military, and they have little incentive to be candid.

Sandakchiev also offered his "personal impression" that the brain drain of scientists to the West, along with several key defections, had given the U.S. all the essential information about what happened at Sverdlovsk and in the clandestine Soviet program. He asserted that the U.S. had known the truth about Sverdlovsk from the beginning, and that current U.S. government calls for openness were demands for repentance, not information. [NOTE: Sandakchiev repeated this statement even more strongly during a dinner conversation with Steinbruner and Shelokov, citing three defectors by name who had provided essential information.] There is currently little interest in BW nonproliferation among Russian political leaders and insisting on repentance defeats hopes for cooperation.

Lederberg responded that the new leadership in the Clinton Administration would be happy to put the past behind us. But they need reassurance that the civilian authorities in Russia have all the former programs under firm control. As long as the military remains so secretive about its past activities, doubts will continue. CISAC does not expect answers from this group, but Russians, perhaps in cooperation with Western groups, need to find some way to conduct a full internal investigation. **Steinbruner** agreed that there was no interest in recrimination, but Yeltsin's announcement that there had been a clandestine offensive BW program from 1972-92 cried out for elaboration. The fact that a false account was offered for one incident compounded the problems, and means that the U.S. government will expect some explanation. Without that, it will be very hard to move forward to greater cooperation.

Sandakchiev responded that one answer is to foster the kind of military-to-military contacts that have proved quite effective on nuclear weapons and CW. **Shelokov** questioned whether it was realistic to think that the military could sort the issues out alone. **Monath** then commented that a Russian military delegation's visit to Fort Dietrich several years earlier had led to the exchange of a surprising amount of information. **Lederberg** noted that U.S. and Russian possession of nuclear weapons and chemical weapons was not secret, but BW possession is and this makes a candid dialogue far more difficult.

The groups agreed to continue exploring a modest joint research effort on some aspect of anthrax. Some portion of the effort would be devoted to Sverdlovsk, but only as an epidemiological problem. The U.S. group will explore potential funding sources and both sides will look for scientists who might be candidates to participate in the study.

BILATERAL COOPERATION ON NONPROLIFERATION

Background

The two groups had discussed all the items on this agenda topic in the past. **Lederberg** noted that there was general agreement that the real problem of potential use of BW would come from third parties. The basis for establishing a cooperative position between Russia and the U.S. depends on creating confidence-building measures, setting standards for verification, and defining what are and are not permitted activities. He commented that he believed it was not so much how we view one another but what the obligations would be under international nonproliferation regime, and how we might explore and test various approaches in a bilateral context.

Since the groups last met the CWC has been completed, which creates a set of standards and verification procedures. **Lederberg** commented that he had expected this to be a model for BW, although the problem of allowed activities is not the same. Production is more complicated in the BW sphere. There is also the issue of scale, since a small room would provide space for a production of militarily significant quantities. Concealment and clandestine activities are much easier, and it is also easier to move between "white" and "black" activities.

Verification

When one looks hard at the problems of verification, **Lederberg** commented, one is tempted to conclude that it is hopeless. Nonetheless, it may be worthwhile to set standards, although national means may provide more of the actual verification evidence. With that in mind, **Steinbruner** and **Monath** had prepared a paper on a possible classification scheme for agents. The classifications of particular agents were the result of extensive discussion between the two groups. The exercise had been motivated in part by the schedule of the 5-year experts meeting to review the BWC. They had sent the paper to two Soviet participants in previous meetings (Reyeshevsky and Rokovsky) in hopes that it might eventually result in a co-authored draft, but communication had broken down in the dissolution of the Soviet Union and the exercise was not completed. **Lederberg** suggested that it was now an open question what the two groups might address in this area.

Steinbruner explained that they had been pursuing ways to clarify the ambiguities in the BW convention of how to distinguish between defensive and offensive work. They had developed categories of risk and then classified a long list of agents according to the risks they posed. The classifications were based on four basic characteristics -- how infective (i.e., what percentage in contact actually develop an infection; how rapidly does the infection develop; how virulent is it; and how efficiently does it spread. He commented that at present there are no known agents with the highest degrees of each of these characteristics -- but that the 1919 influenza strain was an example of such an agent. Given this potential, it is thus of particular concern to keep the most dangerous category empty.

The paper envisioned two levels of restriction using this classification scheme -- a

threshold of disclosure and a threshold of prohibition -- which would differ according to the degree of risk in the various categories. The exercise was intended to suggest a common set of rules that could be agreed on by all laboratories, as well as procedures to encourage disclosure about the types of agents held by various laboratories without interfering in research activities. The underlying purpose was to provide the basis for a bilateral system of disclosure in which the U.S. and Russia would be very forthcoming with each other. This could be applied internationally and the hope was that illegal activities might be detected against this broader pattern of openness and disclosure.

Lederberg commented that this exercise was also intended to stave off more restrictive efforts that might hamper legitimate research unduly. This concern remains relevant to the two groups' potential future activities. The improvement in the Federation of American Scientists' list, noted by **Shelokov**, offers the potential that interested groups might converge on a common list and proposed rules that could be an experts' input to government.

The discussion focused on issues of feasibility and of how to take account of new strains. **Ivanov** commented that additional Russian scientists would have to be identified who could take part in such an exercise, and **Petrov** expressed some doubt about whether theirs was the right group for such an effort. **Steinbruner** commented that the policy prescription was to establish an official body, initially bilateral, but eventually perhaps international, that would be responsible for updating the classifications and for classifying new agents. These would initially be placed in the most dangerous -- and hence restrictive -- category until a full evaluation was completed. **Sandakchiev** and **Petrov** both commented that such an exercise would be a tangible demonstration of the spirit of openness that the two sides were trying to establish.

Sandakchiev and **Robbins** also suggested that joint research and regular contacts between laboratories should be part of any exercise. **Robbins** suggested putting a priority on U.S.-Russian joint work on the agents in the more dangerous categories, since those who are actually working on projects would be the most likely to know about the state of research on any given agent. **Sandakchiev** added that he was a pessimist about the possibilities for verification, but saw the exercise as worthwhile nonetheless as part of the trust-building process. **Steinbruner** and **Lederberg** repeated that beginning on a bilateral level seemed most promising, even if moving to an international level later might result in revisions to the standards and classifications.

The groups agreed to continue discussing the ideas represented by the Steinbruner-Monath paper, possibly adding the classification scheme prepared for FAS by Barbara Rosenberg as a "straw person" for examining alternatives.

Epidemiological Surveillance

Lederberg began by noting that this topic has been discussed frequently and that the two groups should concentrate on what the Academies might have to contribute. **Chanock**

commented that this was an important component of confidence-building, and that regular surveillance was important to the detection of new diseases.[2]

The groups then had an extensive discussion of how surveillance is conducted in Russia and the U.S., and what new measures or assistance might help Russia in creating better reporting system. **Petrov** reminded everyone that data on disease and epidemics were considered classified information under the Soviet system, and some of that culture of secrecy persist. **Sandakchiev** commented that a universal system for Russia needed to be developed, and that perhaps its classifications could be made standard with the U.S, or some international system.

Robbins commented that a global surveillance system seemed an essential part of a program to discourage the use of BW, but that to be successful it should: (1) have a high degree of openness; (2) be independent of governments, so that it was responsible to scientists and not the political community; (3) have some laboratory capability (to isolate agents; for serology); and (4) in the long run serve a more general public health objective. **Lederberg** noted that, as part of the implementation program for the IOM's report on Emerging Infections, CDC is preparing the groundwork for a global surveillance system that would be managed largely through the WHO. He added, however, that he was not sure the funds would be there to implement the system.

The two groups did not come to any decision on whether to continue discussing global surveillance as part of their cooperative activities.

General Proliferation Issues

Lederberg raised the idea that concerns about the misuse of biological research should be made part of physicians' ethical education. The grassroots involvement of physicians, he suggested, could be as important as the Physicians for Social Responsibility's activities on nuclear weapons in the 1980s.

Petrov responded that Dr. Chasov (sp.) is no longer the chairman of the Russian PSR counterpart since he has become minister of health. He believes the new chair is the dean of the medical institutes. The movement is much less active now, presumably reflecting the end of the Cold War. He liked the idea of a physicians movement against BW, and the groups will discuss it further when there is more information about the Russian and American PSR groups. [NOTE: **Husbands** checked with PSR headquarters, and currently BW is not a major focus for its programs, although several of its Board members are interested and may do things as individuals with the blessing of the organization.]

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[2] AIDS was first noticed by researchers who spotted an unusual pattern in the Morbidity, Mortality Weekly Report produced by the CDC.

Lederberg suggested that sharing of intelligence data on third parties could be very important, but added that he was not sure what the two groups could do to promote this. **Petrov** strongly endorsed the idea, and suggested that it be raised at the main meeting of CISAC with its Russian counterparts in October. In the meantime, Petrov will raise the issue with the head of the Russian surveillance service (Valenkov?).

NEXT MEETING

The groups agreed that the scheduled meeting of CISAC with its Russian counterpart group in late October was too soon for the two sides to meet again. However, **Petrov** and perhaps **Ivanov** will be coming with the delegation and they could use the opportunity to meet with **Lederberg** and others from the Working Group to update each other on their progress and to plan for the next meeting.

The groups agreed that early in 1994 was a reasonable target for the next meeting, which would probably be held in Moscow. **Ivanov** suggested that, if the meeting were held in Russia, it might be possible to have some members of the Russian military participate.

SUMMARY OF DECISIONS

1. Conversion. The two groups agreed that developing the idea of an international public health research effort focused on specific dangerous agents, which could support the conversion of some Russian scientists and institutes, should be a priority for our future work. [NOTE: In private conversation later, the CISAC group discussed convening a small planning session in the U.S. early in the fall to explore the idea with public health officials and those involved with Nunn-Lugar projects.]

2. Smallpox. The two groups agreed to support postponing the destruction to enable further study of the issue. If the stocks are retained, the groups support proposals for international management. Lederberg agreed to contact D.A. Henderson, the most appropriate American target for this idea. The two groups may discuss the problem further at their next meeting.

3. The Sverdlovsk Incident. The groups agreed to continue exploring a modest joint research effort on some aspect of anthrax. Some portion of the effort would be devoted to Sverdlovsk, but only as an epidemiological problem. The U.S. group will explore potential funding sources and both sides will look for scientists who might be candidates to participate in the study.

4. Bilateral Cooperation on Nonproliferation.

   a. The groups agreed to continue discussing the ideas represented by the Steinbruner-Monath paper on classifying agents, possibly adding the classification scheme prepared for FAS by Barbara Rosenberg as a "straw person" for examining alternatives.

   b. The two groups did not come to any decision on whether to continue discussing global surveillance as part of their cooperative activities.

   c. The groups will discuss the idea of a grassroots movement by physicians against BW further when there is more information about the Russian and American PSR groups. [NOTE: Husbands checked with PSR headquarters, and currently BW is not a major focus for its programs, although several of its Board members are interested and may undertake activities with the blessing of the organization.]

   d. Petrov endorsed the idea of sharing intelligence data on third parties, suggested that it be raised at the main meeting of CISAC with its Russian counterparts in October. In the meantime, Petrov will raise the issue with the head of the Russian surveillance service (Valenkov?). [NOTE: This idea needs follow up and discussion within the CISAC Working Group to decide if we want to proceed.]

NOTE: The groups agreed that Petrov will consult with Lederberg during the main CISAC meeting in late October about progress on the decisions made at the planning meeting and about plans for a next meeting, which is likely to be in Moscow in early 1994.